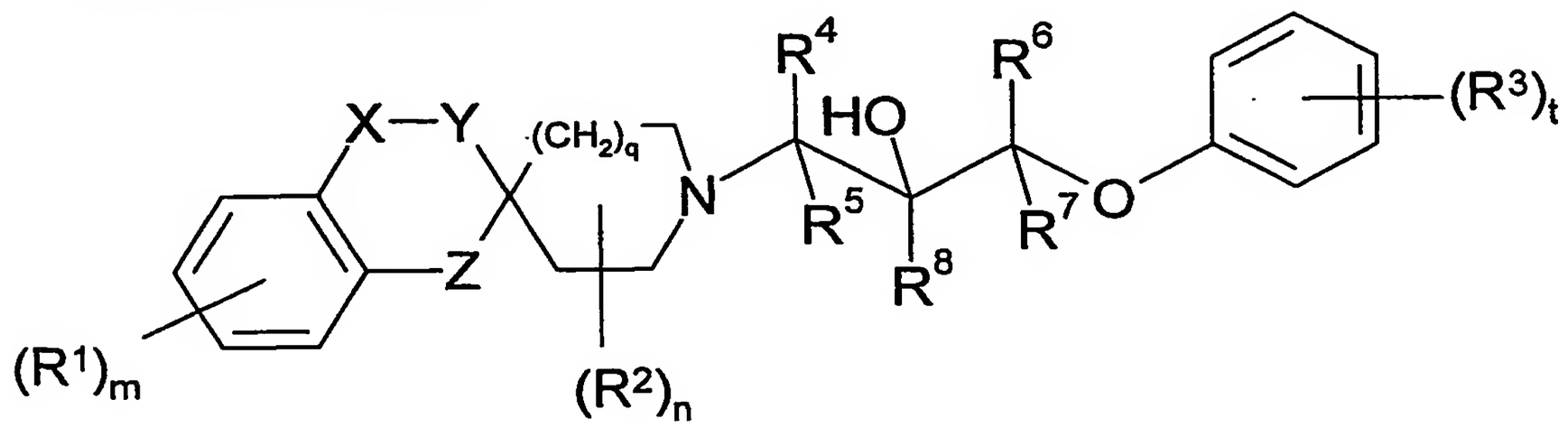
CLAIMS

1. A compound of formula



(I)

wherein

m is 0, 1, 2, 3 or 4;

each R^1 independently represents halogen, cyano, hydroxyl, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy or sulphonamido;

X represents a bond, $-CH_2-$ or -O-, Y represents a bond, $-CH_2-$ or -O-, and Z represents a bond, -O-, -NH- or $-CH_2-$, provided that only one of X, Y and Z can represent a bond at any one time and provided that X and Y do not both simultaneously represent –O-;

n is 0, 1 or 2;

each R^2 independently represents halogen, C_1-C_6 alkyl or C_1-C_6 haloalkyl ;

q is 0 or 1;

t is 0, 1, 2, 3, 4 or 5;

each R^3 independently represents halogen, cyano, nitro, hydroxyl, -C(O)H, $-NR^9R^{10}$, $-CH_2C(O)NR^{11}R^{12}$, $-CH_2NHC(O)R^{13}$, $-NHSO_2R^{14}$, $-SO_2NR^{15}R^{16}$, $-CH_2-R^{17}$, C_1-C_6 alkylcarbonyl, phenylcarbonyl, C_3-C_6 cycloalkyl, or a group selected from C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_1-C_6 alkoxy, phenyl and a saturated or unsaturated 5- to 10-membered heterocyclic ring system comprising at least one ring heteroatom selected from nitrogen, oxygen and sulphur, each group being optionally substituted with at least one substituent selected from halogen, cyano, hydroxyl, carboxyl, C_1-C_6 alkyl, C_1-C_6 alkoxy and C_1-C_6 alkoxycarbonyl;

R^4, R^5, R^6, R^7 and R^8 each independently represent hydrogen, halogen, C_1-C_6 alkyl or C_1-C_6 haloalkyl ;

R^9 and R^{10} each independently represent hydrogen or C_1-C_6 alkyl;

R^{11} and R^{12} each independently represent hydrogen or C_1-C_6 alkyl, or R^{11} and R^{12} together with the nitrogen atom to which they are attached form a 4- to 7-membered saturated heterocyclic ring which may be optionally substituted with at least one substituent selected from hydroxyl;

R^{13} and R^{14} each independently represent hydrogen or C_1-C_6 alkyl; and

R^{15} and R^{16} each independently represent hydrogen or C_1-C_6 alkyl, or R^{15} and R^{16} together with the nitrogen atom to which they are attached form a 4- to 7-membered saturated heterocyclic ring which may be optionally substituted with at least one substituent selected from hydroxyl;

R^{17} is a 5 to 7 membered saturated heterocyclic ring containing at least one nitrogen atom, which ring may be optionally substituted with one or more oxo groups;

or a pharmaceutically acceptable salt or solvate thereof.

2. A compound according to claim 1, wherein X and Y have the meanings shown in the following table:

X	Y
bond	O
O	bond
CH_2	bond
bond	CH_2

3. A compound according to claim 1 or claim 2, wherein Z represents -O- or -CH_2-.

4. A compound according to any one of claims 1 to 3, wherein q is 1.

5. A compound according to any one of claims 1 to 4, wherein m is 1 and R^1 represents halogen.

6. A compound according to any one of claims 1 to 5, wherein each R^3 independently represents halogen, cyano, nitro, hydroxyl, -C(O)H, $-NR^9R^{10}$, $-CH_2C(O)NR^{11}R^{12}$, $-CH_2NHC(O)R^{13}$, $-NHSO_2R^{14}$, $-SO_2NR^{15}R^{16}$, $-CH_2-R^{17}$, C_1-C_4 alkylcarbonyl, phenylcarbonyl, C_5-C_6 cycloalkyl or a group selected from C_1-C_4 alkyl, C_2-C_4 alkenyl, C_2-C_4 alkynyl, C_1-C_4 alkoxy, phenyl and a saturated or unsaturated 5- to 6-membered heterocyclic ring system comprising one, two, three or four ring heteroatoms independently selected from nitrogen, oxygen and sulphur, each group being optionally substituted with one, two, three or four substituents independently selected from halogen, cyano, hydroxyl, carboxyl, C_1-C_4 alkyl, C_1-C_4 alkoxy and C_1-C_4 alkoxycarbonyl.

7. A compound according to claim 6, wherein the saturated or unsaturated 5- to 6-membered heterocyclic ring system is isoxazolyl, pyrrolyl, morpholinyl, piperidinyl or oxadiazolyl.

8. A compound according to claim 1 selected from:

(2S)-1-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-(2-methoxyphenoxy)propan-2-ol hydrochloride,

2-{[(2S)-3-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}phenol,

(2S)-1-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-[2-(2-hydroxyethoxy)phenoxy]propan-2-ol hydrochloride,

2-(2-{[(2*S*)-3-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}phenyl)-*N*-methylacetamide trifluoroacetate (salt),

(3S)-1-[(2-{[(2S)-3-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}phenyl)acetyl]pyrrolidin-3-ol,

N-(2-{[(2S)-3-(5-Chloro-1'*H*.3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl-2-hydroxypropyl]oxy}benzyl)acetamide,

2-(2-{[(2S)-3-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}-4-methoxyphenyl)-N-methylacetamide,

2-(2-{[(2S)-3-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'yl)-2-hydroxypropyl]oxy}-4-hydroxyphenyl)-*N*-methylacetamide trifluoroacetate (salt),

2-(4-{[(2S)-3-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}-2-methoxyphenyl)-*N*-methylacetamide,

(2*S*)-1-(2-Amino-5-methoxyphenoxy)-3-(5-chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propan-2-ol bis(trifluoroacetate),

N-(2-{[(2*S*)-3-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}-4-hydroxyphenyl)methanesulfonamide trifluoroacetate,

N-(2-{[(2*S*)-3-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}-4-methoxyphenyl)methanesulfonamide trifluoroacetate,

(2S)-1-(4-Bromo-2-fluorophenoxy)-3-(5-chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propan-2-ol,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-(3-ethynylphenoxy)propan-2-ol,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-(2,4-dichloro-3,5-dimethylphenoxy)propan-2-ol,

(2S)-1-(4-Chloro-2-isoxazol-5-ylphenoxy)-3-(5-chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propan-2-ol,

(4-{[(2S)-3-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}phenyl)(phenyl)methanone,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-(2,3,4,6-tetrachlorophenoxy)propan-2-ol,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-(2-cyclohexyl-5-methylphenoxy)propan-2-ol,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-phenoxypropan-2-ol,

(2S)-1-(2-Bromophenoxy)-3-(5-chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propan-2-ol,

2-{[(2S)-3-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}benzaldehyde,

5-tert-Butyl-2-{[(2S)-3-(5-chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}benzaldehyde,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-(1,1':3',1''-terphenyl-2'-yloxy)propan-2-ol,

1-(2-{[(2S)-3-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}-5-methoxyphenyl)ethanone,

1-(5-Bromo-2-{[(2S)-3-(5-chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}phenyl)ethanone,

(2S)-1-(4-Chloro-2-isopropyl-5-methylphenoxy)-3-(5-chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propan-2-ol,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-(2,3-dimethyl-4-nitrophenoxy)propan-2-ol,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-(2,4-dichlorophenoxy)propan-2-ol,

Ethyl (2E)-3-(4-{[(2S)-3-(5-chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}-3-methoxyphenyl)acrylate,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-(2-methyl-3-nitrophenoxy)propan-2-ol,

5-Chloro-2-{[(2S)-3-(5-chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}benzaldehyde,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-(2-fluorophenoxy)propan-2-ol,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-(3-fluorophenoxy)propan-2-ol,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-(4-fluorophenoxy)propan-2-ol,

(2S)-1-(2-Chlorophenoxy)-3-(5-chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propan-2-ol,

(2S)-1-(3-Chlorophenoxy)-3-(5-chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propan-2-ol,

(2S)-1-(4-Chlorophenoxy)-3-(5-chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propan-2-ol,

(2S)-1-(3-Bromophenoxy)-3-(5-chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propan-2-ol,

(2S)-1-(4-Bromophenoxy)-3-(5-chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propan-2-ol,

(2S)-1-(2-tert-Butyl-5-methylphenoxy)-3-(5-chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propan-2-ol,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-[2-(trifluoromethyl)phenoxy]propan-2-ol,

1-(2-{[(2S)-3-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}-4,5-dimethoxyphenyl)ethanone,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-[2,3,5,6-tetrafluoro-4-(trifluoromethyl)phenoxy]propan-2-ol,

(2S)-1-(4-Chloro-3-ethylphenoxy)-3-(5-chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propan-2-ol,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-[3-(2,5-dimethyl-1H-pyrrol-1-yl)phenoxy]propan-2-ol,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-[2-(hydroxymethyl)phenoxy]propan-2-ol,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-[2-(2-hydroxyethyl)phenoxy]propan-2-ol,

3-{[(2S)-3-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}benzonitrile,

2-{[(2S)-3-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}benzonitrile,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-(2-morpholin-4-ylphenoxy)propan-2-ol,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-(2,3-difluoro-6-nitrophenoxy)propan-2-ol,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-(2,3,6-trichlorophenoxy)propan-2-ol,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-(4-fluoro-2-methoxyphenoxy)propan-2-ol,

5-Chloro-2-{[(2S)-3-(5-chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}-3-methylbenzaldehyde,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-[4-(4-methylpiperidin-1-yl)-2-nitrophenoxy]propan-2-ol,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-(2,4-dichloro-3,5-dimethyl-6-nitrophenoxy)propan-2-ol,

1-(3,5-Dichloro-2-{[(2S)-3-(5-chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}phenyl)propan-1-one,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-(4-ethylphenoxy)propan-2-ol,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-(2-ethylphenoxy)propan-2-ol,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-(3-ethylphenoxy)propan-2-ol,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-(3-morpholin-4-ylphenoxy)propan-2-ol,

(2S)-1-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-[2-(5-methyl-1,3,4-oxadiazol-2-yl)phenoxy]propan-2-ol,

4-{[(2S)-3-(5-Chloro-1'H,3H-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}benzonitrile,

(2*S*)-1-(5-chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-[2-(pyrrolidin-1-ylsulfonyl)phenoxy]propan-2-ol.

1-(2-{[(2S)-3-(5-chloro-1'*H,3H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2hydroxypropoxy]benzyl}imidazoline-2,4-dione,

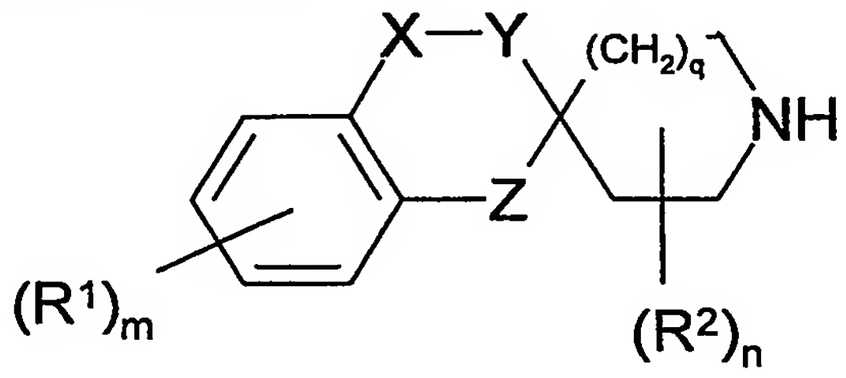
(2S)-{2-chloro-5-[3-(5-chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropoxy]phenoxy}acetic acid,

(2S)-{2,4-dichloro-5-[3-(5-chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropoxy]phenoxy}acetic acid,

and pharmaceutically acceptable salts and solvates of any one thereof.

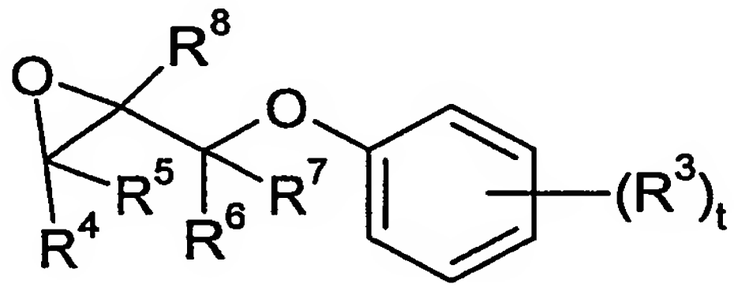
9. A process for the preparation of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as defined in claim 1 which comprises,

(a) reacting a compound of formula



(II)

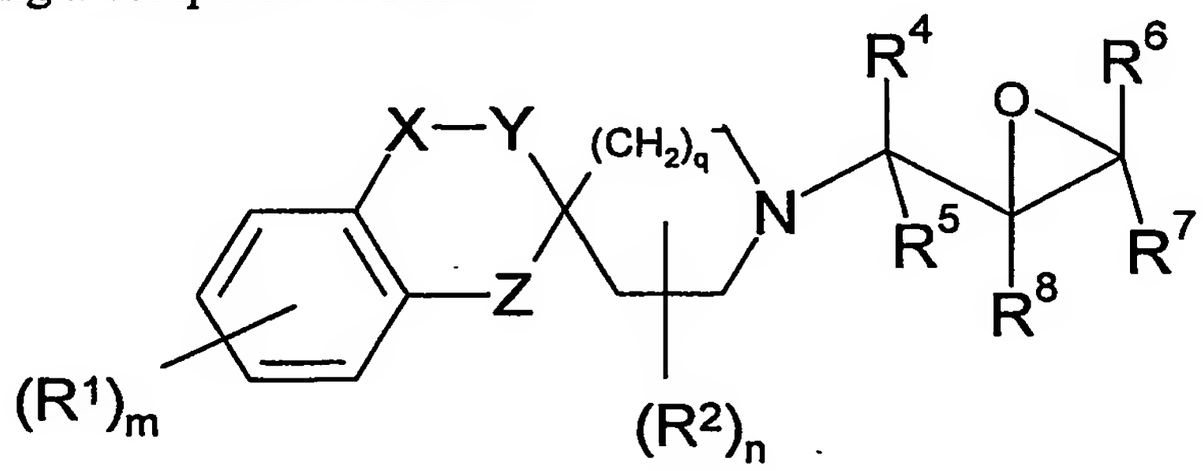
wherein m, R^1, n, R^2, q, X, Y and Z are as defined in formula (I), with a compound of formula



(III)

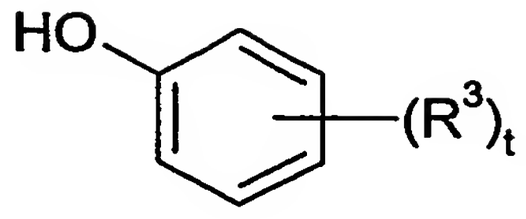
wherein t, R^3, R^4, R^5, R^6, R^7 and R^8 are as defined in formula (I); or

(b) reacting a compound of formula



(IV)

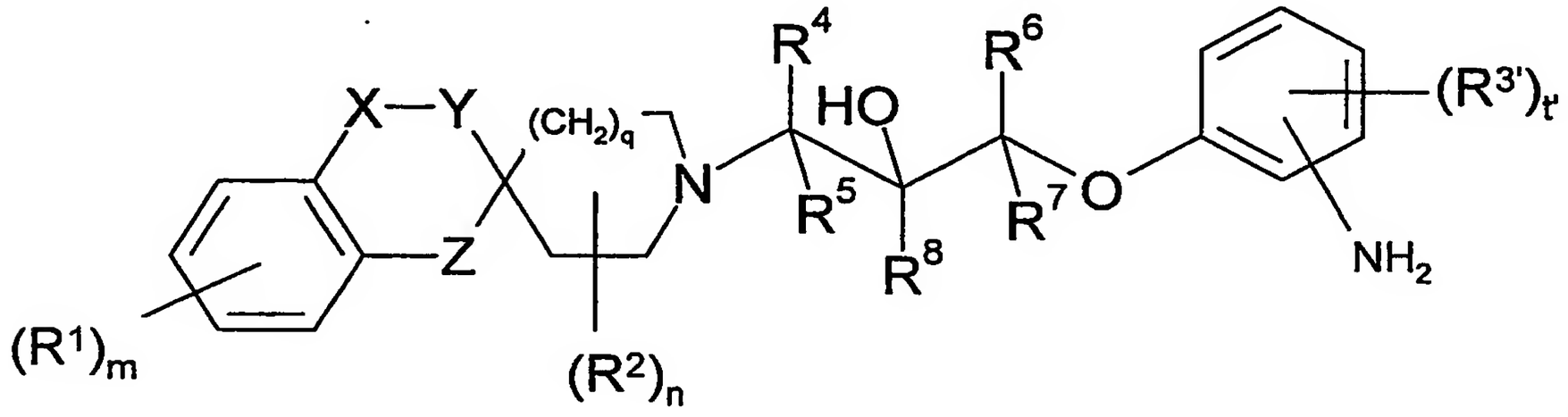
wherein m, R^1, n, R^2, q, X, Y, Z, R^4, R^5, R^6, R^7 and R^8 are as defined in formula (I), with a compound of formula



(V)

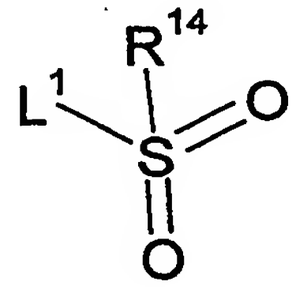
wherein t and R^3 are as defined in formula (I), in the presence of a suitable base; or

(c) when t is at least one and a group R^3 represents $-NHSO_2R^{14}$, reacting a compound of formula



(VI)

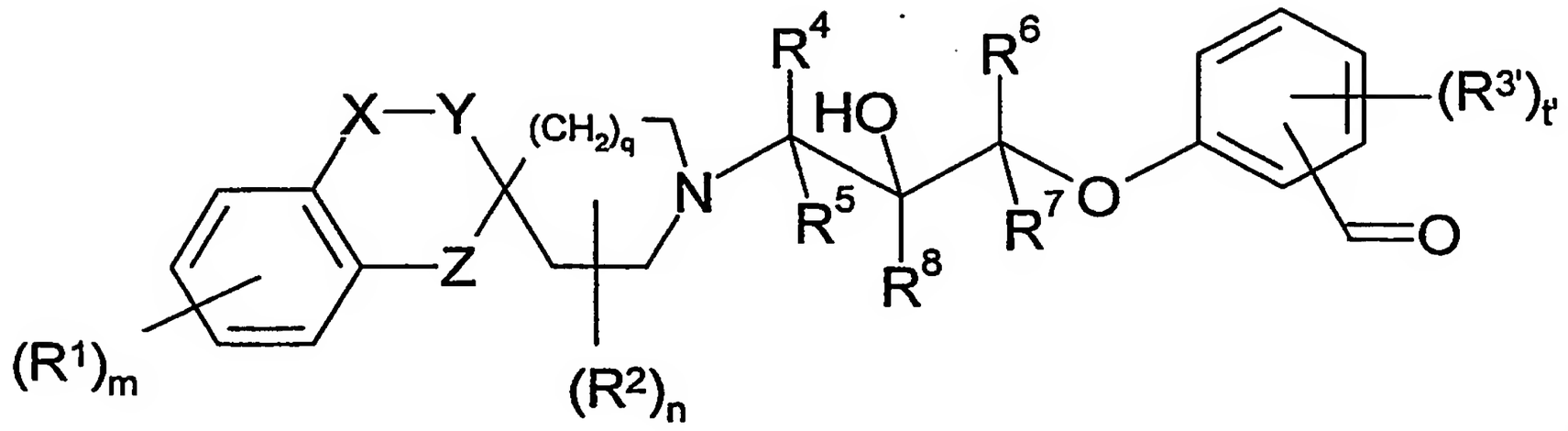
wherein t' is 0, 1, 2, 3 or 4, $R^{3'}$ is as defined for R^3 in formula (I) other than $-NHSO_2R^{14}$ and m, R^1, n, R^2, q, X, Y, Z, R^4, R^5, R^6, R^7 and R^8 are as defined in formula (I), with a compound of formula



(VII)

wherein L^1 represents a leaving group and R^{14} is as defined in formula (I), in the presence of a suitable base;

(d) where t is at least 1 and a group R^3 represents $-CH_2$-R17, where R17 is a 5 to 7-membered saturated heterocyclic ring containing 2 nitrogen atoms and which ring is substituted by two oxo groups, reacting a compound of formula



(VIII)

wherein t' is 0, 1, 2, 3 or 4, $R^{3'}$ is as defined for R^3 in formula (I) other than -CH2-R17, and m, R^1, n, R^2, q, X, Y, Z, R^4, R^5, R^6, R^7 and R^8 are as defined in formula (I), with an alkyl glycinate in the presence of a reducing agent, and subsequently with metal isocyanate;

and optionally after (a), (b) or (c) forming a pharmaceutically acceptable salt or solvate.

10. A pharmaceutical composition comprising a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 8 in association with a pharmaceutically acceptable adjuvant, diluent or carrier.

11. A process for the preparation of a pharmaceutical composition as claimed in claim 10 which comprises mixing a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 8 with a pharmaceutically acceptable adjuvant, diluent or carrier.

12. A compound of formula (I) or a pharmaceutically-acceptable salt or solvate thereof as claimed in any one of claims 1 to 8 for use in therapy.

13. Use of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 8 in the manufacture of a medicament for the treatment of human diseases or conditions in which modulation of chemokine receptor activity is beneficial.

14. Use of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 8 in the manufacture of a medicament for use in treating rheumatoid arthritis.

15. Use of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 8 in the manufacture of a medicament for use in treating chronic obstructive pulmonary disease.

16. Use of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 8 in the manufacture of a medicament for use in treating asthma.

17. Use of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 8 in the manufacture of a medicament for use in treating multiple sclerosis.

18. A method of treating an inflammatory disease which comprises administering to a patient in need thereof a therapeutically effective amount of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 8.

19. A method of treating an airways disease which comprises administering to a patient in need thereof a therapeutically effective amount of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 8.